

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



04 FEB 2005

(43) International Publication Date
26 February 2004 (26.02.2004)

PCT

(10) International Publication Number
WO 2004/016283 A3

(51) International Patent Classification⁷: C07K 19/00, A61K 39/39, 39/385, C12N 15/70, 1/21, 5/10, A61K 48/00

(74) Agents: BRASNETT, Adrian, H. et al.; Mewburn Ellis, York House, 23 Kingsway, London, Greater London WC2B 6HP (GB).

(21) International Application Number:

PCT/EP2003/008926

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 12 August 2003 (12.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02292042.5 14 August 2002 (14.08.2002) EP

(71) Applicant (*for all designated States except US*): AVIDIS SA [FR/FR]; Biopole Clermont-Limagne, F-63360 Saint Beauzire (FR).

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): ANDREOLETTI, Pierre [FR/FR]; Avidis SA, Biopole Clermont-Limagne, F-63360 Saint-Beauzire (FR). DUMON, Laurence [FR/FR]; Avidis SA, Biopole Clermont-Limagne, F-63360 Saint-Beauzire (FR). HILL, Fergal [IE/FR]; Avidis SA, Biopole Clermont-Limagne, F-63360 Saint-Beauzire (FR). JULIEN, Michel [FR/FR]; Avidis SA, Biopole Clermont-Limagne, F-63360 Saint-Beauzire (FR). MARCHAND, Jean Baptiste [FR/FR]; Avidis SA, Biopole Clermont-Limagne, F-63360 Saint-Beauzire (FR). RISSE, Emmanuel [FR/FR]; Avidis SA, Biopole Clermont-Limagne, F-63360 Saint-Beauzire (FR).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

3 June 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A3

(54) Title: HETEROPOLYMERIC COMPOUND COMPRISING A SCAFFOLD, AN ADJUVANT AND AN ANTIGEN, AND ITS USE

(57) Abstract: The present invention provides a product comprising: a first component which is a scaffold; a second component which is an adjuvant, preferably a polypeptide which is a ligand for CD21 or a cell surface molecule on B cells or T cells or follicular dendritic or other antigen presenting cells; and a third component which is an antigen.

BEST AVAILABLE COPY

WO 2004/016283 A3

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/08926

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C07K19/00 A61K39/39 A61K39/385 C12N15/70 C12N1/21
 C12N5/10 A61K48/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

BIOSIS, EMBASE, WPI Data, PAJ, EPO-Internal, SEQUENCE SEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 00 69907 A (MEDICAL RESEARCH COUNCIL) 23 November 2000 (2000-11-23) cited in the application page 4, line 30 - line 31 page 9, line 28 -page 10, line 2 page 12, line 5 - line 6 page 14, line 14 - line 15 page 14, line 29 - line 30 page 20, line 20 -page 21, line 12 claim 23</p> <p>---</p> <p>-/-</p>	1-4, 8, 10-15, 17-20

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the International search

31 March 2004

Date of mailing of the International search report

15/04/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl
 Fax: (+31-70) 340-3016

Authorized officer

Nooij, F

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP/03/08926

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 91 11461 A (BIOGEN, INC.) 8 August 1991 (1991-08-08) cited in the application page 6, line 1 - line 11 page 7, line 10 - line 16 page 9, line 32 -page 10, line 7 page 27, line 17 -page 29, line 14 page 29, line 32 -page 30, line 15 ---	1-3, 8-12, 14, 15, 17-21
X	GB 2 282 813 A (MERCK & CO., INC.) 19 April 1995 (1995-04-19) examples claims ---	1, 3, 4, 10, 11
X	E. SHINYA ET AL.: "In-vivo delivery of therapeutic proteins by genetically-modified cells: comparison of organoids and human serum albumin alginate-coated beads." BIOMEDICINE AND PHARMACOTHERAPY, vol. 53, December 1999 (1999-12), pages 471-483, XP002231127 Paris, France cited in the application abstract ---	1-3, 8-12, 18, 20, 21
X	WO 01 00231 A (SMITHKLINE BEECHAM BIOLOGICALS) 4 January 2001 (2001-01-04) the whole document ---	1, 3, 5-7, 10, 11
A	A. KOL ET AL.: "Cutting edge: Heat shock protein (HSP) 60 activates the innate immune response: CD14 is an essential receptor for HSP60." THE JOURNAL OF IMMUNOLOGY, vol. 164, no. 1, 1 January 2000 (2000-01-01), pages 13-17, XP002262385 Baltimore, MD, USA abstract ---	2, 12, 13, 18
A	WO 99 35260 A (ADPROTECH PLC) 15 July 1999 (1999-07-15) cited in the application examples claims ---	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 03/08926

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
WO 0069907	A 23-11-2000		AU 4770300 A AU 4933200 A CA 2372198 A1 CA 2372199 A1 EP 1179013 A1 EP 1189934 A2 WO 0069907 A1 WO 0069886 A2 JP 2002544285 T JP 2003502024 T US 2002193564 A1 US 2002137891 A1	05-12-2000 05-12-2000 23-11-2000 23-11-2000 13-02-2002 27-03-2002 23-11-2000 23-11-2000 24-12-2002 21-01-2003 19-12-2002 26-09-2002
WO 9111461	A 08-08-1991		AU 7328891 A CA 2049964 A1 EP 0465633 A1 JP 4506460 T WO 9111461 A1	21-08-1991 27-07-1991 15-01-1992 12-11-1992 08-08-1991
GB 2282813	A 19-04-1995		NONE	
WO 0100231	A 04-01-2001		AU 5977700 A CA 2376926 A1 WO 0100231 A2 EP 1198243 A2	31-01-2001 04-01-2001 04-01-2001 24-04-2002
WO 9935260	A 15-07-1999		AU 757021 B2 AU 1776299 A CA 2317020 A1 EP 1042467 A1 WO 9935260 A1 JP 2002500042 T NZ 505827 A	30-01-2003 26-07-1999 15-07-1999 11-10-2000 15-07-1999 08-01-2002 28-03-2003